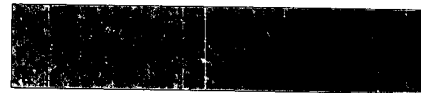


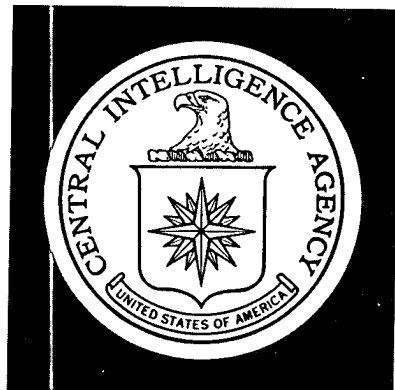
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DIRECTORATE OF  
INTELLIGENCE

# Intelligence Report

*State Reserves and Military Expenditures in the USSR*



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CENTRAL INTELLIGENCE AGENCY  
Directorate of Intelligence  
September 1969

INTELLIGENCE REPORT

State Reserves and Military Expenditures  
in the USSR

Introduction

The most serious gap in Soviet budget and national income statistics is the lack of information on defense spending. A single number for defense is published annually in the state budget, but this value covers only a part of military spending. While not identified as such, sizable defense outlays are known to be carried under other parts of the state budget.

Similarly, published tables on national income show no allocation to defense. Final output destined for military-space purposes is concealed in various components of consumption and investment. Gradually some information has come to light regarding the location in national income data of a few kinds of defense spending. For example, food and clothing distributed to military personnel is known to be included in private consumption. The location of expenditures on military-space hardware in Soviet national income data, however, has remained a mystery.

The secrecy masking defense expenditure in general and outlays for military hardware in particular has spurred Western efforts to estimate military outlays in the USSR by manipulating budget or national income data. This report attempts to isolate a national income category of particular intelligence significance -- additions to state reserves. [redacted]  
[redacted] state reserves include a [redacted]

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*Note: This report was produced solely by CIA. It was prepared by the Office of Economic Research and coordinated with the Office of Strategic Research.*

category of reserves entitled the "means of defense."  
Thus estimates of additions to state reserves may  
provide new insight into an important element of  
Soviet defense spending.

### Three Categories of State Reserves

1. Soviet sources define and discuss three classes of state reserves -- food and material reserves, strategic reserves (the "means of defense"), and the reserve of the Council of Ministers.\* The first category, food and material reserves, serves primarily as an emergency stockpile in case of catastrophe. These reserves are used if for any reason the normal flow of goods in the process of production and distribution is disrupted seriously. Food and material reserves serve the needs of mobilization in wartime and cushion the effects of production breakdowns in peacetime. Approximately 1,400 commodities, including common consumer goods such as tobacco as well as critical materials such as mercury and jet fuels, are kept in food and material reserves. Goods are sequestered into material reserves continually and are often transferred among state reserves bases. Releases from reserves occur as part of a renewal process, as loans, or as unrequited releases, which must be approved by the Council of Ministers.

2. Strategic reserves are defined as stocks of military supplies and equipment controlled by the Ministry of Defense. These stocks may fill some of the current needs of the armed forces, but their primary purpose is to meet wartime demands. [redacted] their size "is determined with the consideration of supplying the armed forces with all that is necessary for the conduct of war" until industry can be converted to a wartime basis but "in a rapid-flowing war, the strategic material reserves, obviously, may be designated to assure the conduct of the military struggle until its conclusion."

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3. Strategic reserves are known to comprise a comprehensive range of military goods including weapons, ammunition, tanks and vehicles, airplane parts, signal equipment, and fuel, together with supplies of rations, food, clothing, medical supplies, and engineering goods. A system of territorial warehouses run by the Ministry of Defense and situated throughout the USSR exists for their

\* For a survey of these sources, see the Appendix.

storage. These stocks include that portion of military output that is not sent to operational units. Equipment with the operational units, however, may also constitute strategic reserves in an accounting sense.

4. The third category of state reserves, the reserve of the Council of Ministers, is designed to meet shortrun supply problems unforeseen by the annual plan. This reserve is a relatively small stock of widely consumed commodities which may be dispatched in emergency conditions as decreed by the Council of Ministers.

#### A Ruble Measure of Net Additions to State Reserves

5. Soviet publication of an abbreviated set of national accounts for 1950-67 furnishes a starting point for estimating additions to state reserves and thus for detecting concealment of output produced for the military sector.\* In the Soviet national income, whose categories are shown in Table 1, state reserves are part of capital accumulation.

Table 1

#### National Income, by End Use

<u>Consumption</u>	<u>Capital Accumulation and Other Expenditures</u>
Personal consumption	Increment in fixed capital
Material outlays in institutions serving the population	Increment in working capital and reserves
Material outlays in science and administration	

\* Although Soviet financial texts indicate that state reserves are financed through the budget category "financing the national economy," budget data are not, for the most part, well enough understood to be of help in estimating additions to state reserves.

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[redacted] military subsistence is included under "personal consumption." Further research has led to the conclusion that at least some current costs of maintaining the military forces (such as POL) are entered under "material outlays in institutions serving the population" and that "material outlays in science and administration" cover part of expenditures for military RDTE&S.\*

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6. A series of estimates of net additions to state reserves in 1951-67 is shown in Table 2. The values are in current prices and are derived from published Soviet data on capital accumulation and inventory holdings, as explained in the Appendix.

Table 2

## Net Additions to State Reserves

<u>Year</u>	<u>Billion Rubles</u>	<u>Year</u>	<u>Billion Rubles</u>
Average, 1951-52	4.8 to 5.8	1962	6.9
Average, 1953-55	7.1 to 7.3	1963	6.6
Average, 1956-58	3.2	1964	8.0
1959	2.0	1965	12.9
1960	5.9	1966	10.5
1961	6.2	1967	7.1

7. According to these estimates, annual net additions to state reserves averaged about 5-7 billion rubles in 1951-55 and then declined to 2-3 billion rubles in 1956-59. In 1960-64, average net additions bounced back to a level of 6-8 billion rubles and climbed sharply to 10-13 billion rubles in 1965-66 before falling back to 7 billion rubles

\* Research, development, test, evaluation, and space programs.

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in 1967. In other words, from 1951 to 1967, average annual increments to state reserves fluctuated within a fairly narrow range of 5-7 billion rubles except for two periods: 1956-59, when they were much less (2-3 billion rubles) and 1964-66, when they were much larger (8-13 billion rubles).

#### Reliability of the Estimates

8. The estimates of additions to state reserves are subject to a range of error. There are gaps in the statistical basis of the estimates. Distortions arising from price changes and timelags cannot be corrected. Finally, there may have been unannounced changes in the Soviet statistical reporting system that would affect the categories under investigation. Each of these problems is discussed in more detail below.

9. The statistical basis of the estimates is deficient to the extent that no data are available to estimate additions to state reserves in 1951, 1953-54, and 1956-57. Moreover, data are not available for some categories of working capital, and so missing components had to be estimated or ignored. For example, no attempt was made to include inventories in the private sector, which are conceptually part of working capital. Nevertheless, it is very unlikely that estimates of changes in state reserves could be in error by more than 200-300 million rubles on this account. The enormous increase in state reserves in 1965 is especially suspect. In 1965 the method of valuing state farm inventories of homegrown seed, forage, and livestock was changed from cost to the lower of cost or delivery prices. If the change in valuation was not reflected in the national income accounts, the estimate of additions to state reserves in 1965 might be 1-1/2 to 2 billion rubles too high.

10. Estimates of additions to state reserves should be made in constant prices in order to measure "real" change in state reserves. The preponderance of evidence indicates that Soviet working capital, whether in national income statistics or in general reporting, is revalued at the end of each year in current prices. Presumably, the same valuation procedure holds for state reserves. Consequently, "real" additions to state reserves are greater or

less than the values measured in current prices depending on the direction of the change in current prices.

11. Although additions to state reserves cannot be explicitly estimated in constant prices, a notion of the possible effect of price changes can be inferred from official Soviet statistics on the trend in industrial wholesale prices. These prices declined by 18 percent during 1950-55, remained almost constant until 1966, and rose by 8 percent in 1967. Assuming that industrial goods enter state reserves at wholesale prices, the net "real" additions to state reserves between 1950 and 1955 would be greater than the value shown in Table 2 in current prices. This is especially true for 1952, when most of the price decline occurred. On the other hand, the "real" value of additions to state reserves of industrial products such as petroleum products, lumber, and metals could be as much as 20 percent less than the value shown in current prices as a result of the price reform of 1 July 1967. Agricultural commodities probably are transferred to state reserves at procurement prices. Procurement prices for basic foodstuffs have been rising steadily since 1953. Thus "real" additions to state reserves of agricultural products would be considerably lower than indicated by the value in current prices, especially in good crop years when the USSR was able to add to its reserves of grain and meat. Measures of the actual production implied by additions to state reserves in any given year may also be distorted by timelags. It is unlikely that all reserve commodities are produced, procured by the state, and placed in state reserves in a single year. A lag of a year or more may be the rule for some commodities.

12. Finally, changes in the statistical reporting system for national income -- rather than changes in state reserves -- may have caused some of the large fluctuations in the series, especially the abrupt increases in 1960 and 1965. For example, military end items previously classified under "consumption" in the national income table could have been switched to the "working capital and reserves" component, causing an unexplained rise in estimates of additions to state reserves. To test this possibility, each national income category was

estimated from independent sources for each year as a check on the data in the official national income table. If military outlays were rearranged among the national income categories, the difference between official and estimated components would change markedly over time. The test did not reveal any large changes in the difference between reported and reconstructed values for national income categories. Although there does not appear to have been any major reshuffling of military expenditures involving different allocations to "working capital and reserves," the possibility remains that reclassification did occur within the "working capital and reserves" component. At present there is no way to determine whether such reclassification occurred.

13. A serious barrier to interpretation of the real phenomena underlying additions to state reserves in any year is the inability to measure both "gross" and "net" additions. There is no way to determine whether additions of a given commodity in any year have been offset by withdrawals of previously stockpiled amounts of that commodity in the same year. Thus it would be impossible to detect a large addition of newly produced military hardware to state reserves if, at the same time, quantities of currently stockpiled equipment were scrapped or shipped to North Vietnam or other aid recipients.

#### Trends in Additions to Strategic Reserves

14. Total net additions to state reserves in any year reflect independent variations in each of the three classes of reserves. To estimate the part that represents net additions of military equipment to strategic reserves, the additions to food and material reserves and to the reserve of the Council of Ministers must be valued and subtracted from total additions to state reserves. Unfortunately, variations in the reserve of the Council of Ministers cannot be measured. Estimates of additions to strategic reserves, however, are unlikely to be very much in error on this account, because the reserve of the Council of Ministers is relatively small.\*

\* *Annual planned allocations to the budget category "reserve fund of the Council of Ministers" have been estimated at 1-3 billion [footnote continued on p. 9]*

It is possible, however, to measure changes in the stocks of some commodities that bulk large in food and material reserves. Grain, butter, and sugar are probably the principal food commodities held in food reserves, while the main nonfood materials are oil and lumber. Although the exact location of gold reserves in the national accounts is unknown, they may well be included in state reserves.

15. Stockpiling of oil and lumber should not cause large fluctuations in additions to state reserves. Petroleum production has risen steadily, and production of lumber has fluctuated within a narrow range. Stockpiles of oil and lumber probably are maintained in proportion to annual consumption. For example, reserves of oil and lumber might be kept at levels adequate for supplying the Soviet economy for three to six months. Stockpiles of oil and lumber would turn over in the renewal process, but large fluctuations would be unlikely.

16. Estimates of stockpiles of grain, butter, sugar, and gold have been compiled for those years for which data are available (1959-67) and have been valued at current prices in each year. A comparison of net additions to state reserves and net additions minus the estimated reserves of grain, butter, sugar, and gold (see Figure 1) indicates that changes in stocks of these important commodities may have accounted on the average for about 10 percent of total additions to state reserves during the period as a whole, although the year-by-year shares ranged from 2 percent in 1960 to 27 percent in 1966.

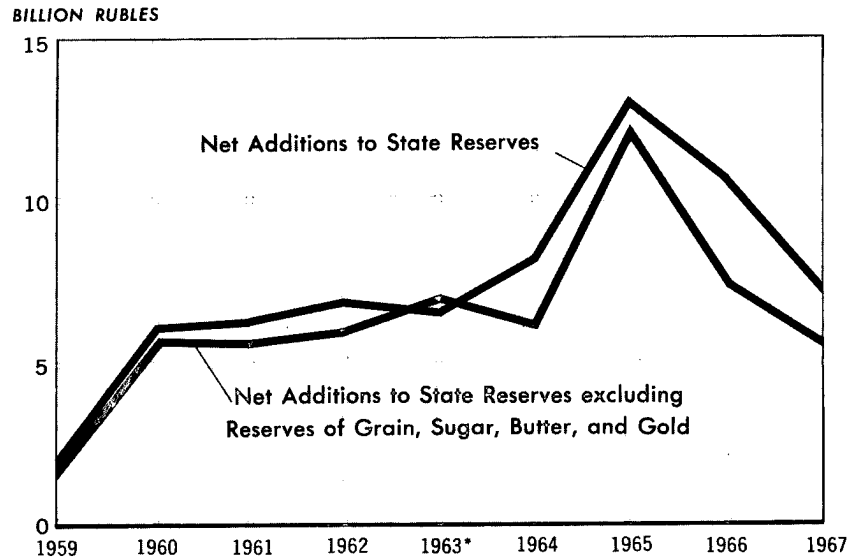
17. Although these four commodities account for only a part of total food and material reserves, changes in this category as a whole could account for only a small part of the net additions to total

*rubles between 1960 and 1964. Some of these funds may be used to increase the stock of commodities held by the Council of Ministers in state reserves, but by far the greater part should be employed for its designated purpose -- to relieve shortrun bottlenecks that arise in the course of the year.*

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Figure 1

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**NET ADDITIONS TO STATE RESERVES**

\*Because of the poor harvest, reserves of grain and sugar declined in 1963. Thus the value of additions to state reserves is higher when changes in stocks of these commodities are excluded.

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state reserves in this period. For commodity stockpiles to account for large portions of the total additions to state reserves in 1951-55 and 1960-67, enormous quantities of a large range of goods would have had to enter the reserves each year at high prices. Such quantities clearly were not available for stockpiling in these years. Furthermore, most of the emergency stockpiles of food, fibers, machine tools, and essential raw materials probably were brought up to required levels by the end of the 1950's (as they were in the United States) and simply maintained thereafter.

18. Thus the major portion of additions to state reserves remains unexplained. Presumably, stockpiling of additional nonmilitary commodities accounts for some of the residual. The logic of the above analysis, however, suggests that much of the residual could represent the transfer of military production to state reserves in the national income accounting sense. It remains to examine this conclusion in the context of what is known about the pattern of military procurement and military stockpiling from other sources.

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Comparison of Net Additions to State Reserves  
with Soviet Military Outlays

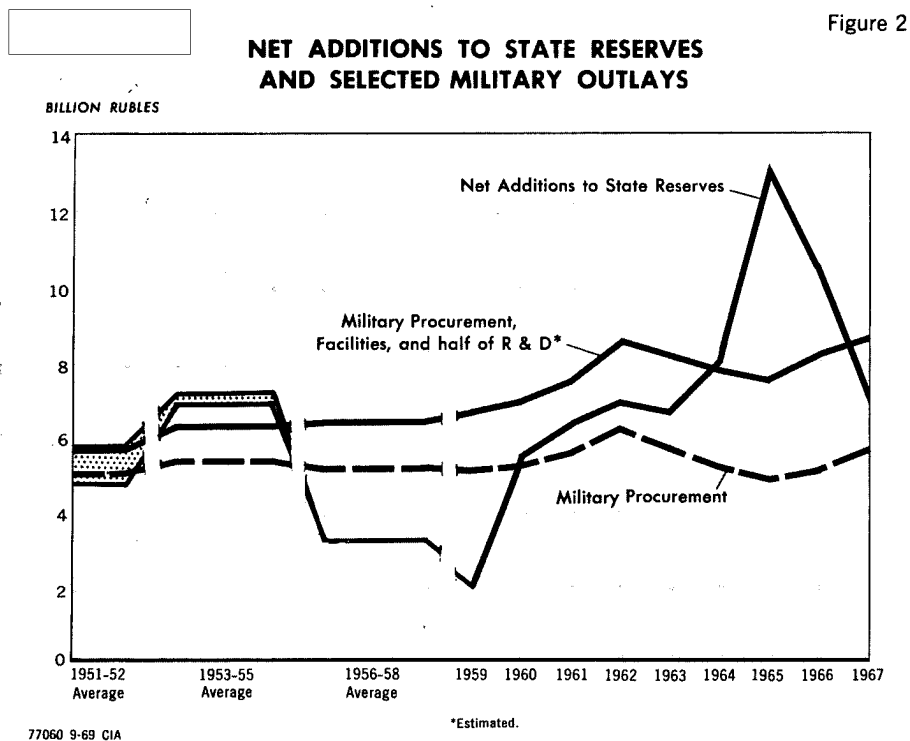
19. The first hypothesis that presents itself is that the additions to state reserves in the national income tables represent additions to stockpiles of military supplies and equipment not in the hands of the operational forces.\* For such to be the case, however, there would have to be stockpiles of military supplies and equipment in the USSR approaching a value of 66 billion rubles -- the sum of the additions to state reserves from 1959 to 1967 -- an amount almost 19 billion rubles more than total estimated procurement for the active forces during the same period. While the USSR is known to maintain stockpiles of obsolete equipment, there is no evidence of military stockpiling of supplies and equipment even beginning to approach this value. Moreover, the fact that many Soviet military units do not have their full complement of equipment or are equipped in part with obsolescent equipment is inconsistent with large stockpiles of new military equipment. Thus it is reasonable that only a small part of the estimated additions to state reserves represents stockpiling of military supplies and equipment at state reserves bases.

20. Another possible explanation of the large residual value is that, for purposes of national income accounting, the strategic reserve component of state reserves includes military supplies and equipment -- and perhaps even facilities -- delivered to the operational forces, as well as supplies and equipment in military stockpiles. For example, a piece of equipment could be added to the accounting category "state reserves," whether or not its eventual destination was a state reserves base, a military district warehouse, or an armed forces unit on active duty. Indeed, if such is not the case, it would mean that of the more than 100 billion rubles added to state reserves since 1950, virtually all would have to be accounted for by increases in food and material reserves, and the rest by some small increments in the reserve of the Council of Ministers or in strategic reserves in the

\* *Soviet descriptions of the physical operation of the state reserves system are consistent with this hypothesis.*

form of raw materials, machine tools, and the like. Physical quantities of such a magnitude clearly were not available for stockpiling. Moreover, material and equipment delivered directly to the armed forces would have to be reported under a category other than working capital and reserves in the Soviet national income accounts.

21. If a large portion of additions to state reserves represents military purchases, the trend in such additions presumably should more or less agree with independent estimates of military expenditures. Figure 2 compares the estimates of net additions to state reserves with current estimates used in this report of outlays for (a) procurement by the armed forces and (b) procurement, facilities, and half of military-space R&D.\* These alternative



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\* Military pay does not appear at all in Soviet national income, and food and clothing allowances are reported under consumption. Although part of the deliveries of goods to R&D are reported in public consumption, it is entirely possible that the hardware [footnote continued on p. 13]

representations of military expenditures should bracket the range of activities which might be recorded under additions to state reserves in the national income accounts.

22. The results of the comparison are inconclusive. In 10 of the 16 years, additions to state reserves fall within or very close to the range between estimates of Soviet (a) military procurement and (b) military procurement, construction of military facilities, and half of military-space R&D. Additions to state reserves, however, are much less than either of the two sets of estimates in 1956-59 and much higher in 1965-66.

23. Very little can be said at this time to reconcile the differences between the Soviet state reserves series and the estimates of military outlays. One reason for the military and reserves series not agreeing closely might be differences in concept. For one thing, total additions to Soviet state reserves are reported in current prices, while the estimates of military procurement are in constant prices. This difference, however, should not be much of a factor in the divergence of the estimates of military outlays and the Soviet state reserves series. A correction for price changes would not affect the comparison between 1955 and 1966 when the general price level was stable, and would tend to increase the differences between the two series in 1951-55, when prices were falling.

24. Second, estimates of military outlays reflect current purchases while additions to state reserves are net of withdrawals for foreign aid, for retirements, and perhaps for distribution to the active forces for current use. This could explain the relatively low level of additions to state reserves in 1956-59, if, for example, the USSR chose to retire in an accounting sense large amounts of World War II equipment during this period. Without more information on the retirement policy regarding military property, or the role of state

*fabricated in the R&D sector (missiles, space gear, and test equipment and models of all kinds) is treated like regular military equipment.*

reserves in supporting the military forces on a day-to-day basis, however, it is not possible to appraise the importance of withdrawals from strategic stockpiles in explaining the behavior of state reserves.

### Conclusions

25. The "reserves" component of the national income category "additions to working capital and reserves" in Soviet statistics has long been known to include procurement of military goods under the "state reserves" account. Information in a recently published Soviet monograph permits estimation of the value of additions to state reserves for the years 1951-67 by means of a residualizing technique. According to these estimates, average annual increments to state reserves fluctuated within a fairly narrow range of 5-7 billion rubles except for two periods: 1956-59, when they were much less (2-3 billion rubles) and 1964-66, when they were much larger (8-13 billion rubles).

26. Although the three categories of additions to state reserves -- food and material reserves, strategic reserves, and the reserve of the Council of Ministers -- cannot be measured precisely, a rough estimate of the civilian portion suggests that the greater part of additions to state reserves might represent military outlays. The lack of any other plausible location in the national income accounts for large expenditures on military goods tends to support this suggestion.

27. Strategic reserves are defined by the USSR as stocks of military supplies and equipment controlled by the Ministry of Defense. These reserves are known to include a wide range of military goods stored throughout the USSR. What part of Soviet defense expenditures is represented by additions to state reserves as they are reflected in national income accounts remains unclear. There is no evidence of military stockpiling in the USSR that would explain the high levels suggested by the implied levels of additions to state reserves. A possible explanation is that deliveries of supplies and equipment to the operational forces as well as construction of facilities and R&D hardware are also

[redacted]

included. The year-to-year increments to Soviet state reserves, however, do not correspond well with the estimates of military outlays of this kind. Although several factors can be identified that might explain the lack of agreement, little can be done to reconcile the differences with presently available information.

28. Despite the difficulties in interpretation, the behavior of additions to state reserves warrants continued study. [redacted]

[redacted]

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## APPENDIX

Additions to Soviet State Reserves:  
Size and ContentDerivation of Estimates

Additions to state reserves are derived as a residual by subtracting increments in working capital from the Soviet national income category "additions to working capital and reserves." Table 3 shows the derivation of the residual.

Working capital is defined in Soviet handbooks as "(a) stocks of raw and other materials, (b) fuel, (c) finished output, (d) trade balances, (e) private stocks of agricultural products held by the population, (f) unfinished construction and so forth." An official series on the value of working capital, which appears routinely in Soviet handbooks, gives data on the first four components of working capital. Together, these elements of working capital constitute "commodity-material values," which is roughly equivalent to the Western accounting concept of physical inventories.

"Commodity-material values," as presented in the handbooks, pertain only to the state sector. Total inventories are obtained by adding estimates of inventories in collective farms and in the private sector to "commodity-material values." Because no data are available on private inventories, the inventory component of working capital includes only inventories in the public sector.

Data for estimating inventories in collective farms are available for all years except 1954-55 and 1959. No data are available for 1950-52 because inventories were not reported on collective farm accounts until 1953. Inventories of collective farms include (a) productive inventories such as seed and planting materials, feed, fodder, spare parts, and other materials; (b) unfinished production in the form of expenditures preparing for future harvests, immature livestock, and expenditures on unfinished production of subsidiaries;

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Table 3  
Derivation of Estimates of Additions to State Reserves

	Billion New Rubles																	
	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
1. Inventories in the public sector at year's end																		
a. "Commodity-material values"	29.33	N.A.	35.57	N.A.	N.A.	39.32	N.A.	N.A.	57.28	66.31	71.00	78.42	85.53	92.61	102.74	107.67	117.19	130.72
b. Collective farm inventories	0-2.00 <u>a/</u>	N.A.	1.50-2.00 <u>a/</u>	2.00	2.33	2.67	3.00	3.33	7.68	7.78	7.77	7.74	8.51	8.42	9.71	11.32	12.41	14.70 <u>a/</u>
c. Total public sector inventories <u>b/</u>	29.33-31.33	N.A.	37.07-37.57	N.A.	N.A.	41.99	N.A.	N.A.	64.96	74.09	78.77	86.16	94.04	101.03	112.45	118.99	129.60	145.42
2. Annual additions to working capital																		
a. Change in public sector inventories <u>c/</u>		6.24-8.24		4.42-4.92				22.97		9.13	4.68	7.39	7.88	6.99	11.42	6.54	10.61	15.82
b. Change in unfinished construction	N.A.	1.68	1.71	1.30	1.58	1.05	1.21	1.62	0.04	1.72	2.45	4.00	1.86	0.54	0.91	2.89	3.42	3.67
(1) Unfinished construction in collective farms <u>a/</u>	N.A.	0.05	0.08	0.003	0.18	0.15	0.11	0.02	0.06	0.08	0.01	0.01	0.09	0.09	0.09	0.10	0.30	0.20
(2) Unfinished construction in state sector	N.A.	1.50	1.50	1.20	1.20	0.90	1.00	1.60	-0.12	1.54	2.34	3.43	1.34	0.10	0.85	2.53	2.91	3.24
(3) Uninstalled equipment <u>a/</u>	N.A.	0.13	0.13	0.10	0.20	0	0.10	0	0.10	0.10	0.10	0.56	0.43	0.35	0.01	0.26	0.21	0.23
c. Total additions to working capital <u>d/</u>	N.A.	9.63-11.63		8.35-8.85				25.84		10.85	7.13	11.39	9.74	7.53	12.37	9.43	14.03	19.49
3. Additions to working capital and reserves	8.00	9.70	11.40	10.70	8.20	11.40	13.60	9.20	12.80	12.80	13.00	17.60	16.60	14.10	20.40	22.30	24.50	26.60
4. Additions to state reserves <u>e/</u>	N.A.	9.5-11.5		21.4-22.0				9.7		2.0	5.9	6.2	6.9	6.6	8.0	12.9	10.5	7.1
a. Estimated.																		
b. Sum of lines 1, a, and 1, b.																		
c. Changes in line 1, c.																		
d. Sum of lines 2, a, and 2, b.																		
e. Line 3 minus line 2, c.																		

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[REDACTED]

(c) finished output of collective farm subsidiary operations. The following money components of working capital, which are not part of material inventories, are eliminated: cash, bank accounts, assets in the form of advances to collective farmers, letters of credit, and accounts receivable.

Unfinished construction must be added to public sector inventories to obtain estimates of total working capital. As the USSR defines it, unfinished construction includes (a) all unfinished capital construction in the state and in collective and private sectors and (b) uninstalled equipment. Data for unfinished construction in the state sector are available for all years, except 1950, in Soviet handbooks. Unfinished construction in collective farms and the series on uninstalled equipment had to be pieced together [REDACTED]

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[REDACTED] No information is available with which to estimate unfinished construction in the private sector, but annual changes in the total are probably small in any event.

#### Derivation of Estimates of Additions to Commodity Stocks

The estimates of additions to commodity stocks presented in Table 4 were used in the report to judge how much of total additions to state reserves might have been accounted for by additions to food and material reserves. A discussion of industrial estimates follows:

##### Grain

Additions to grain stocks are estimated by subtracting the total grain used for specific purposes from total state procurements of grain. Other uses include: exports, grain milled for food, grain processed for alcohol and beer, and losses.\* Grain stocks are valued at the weighted average of procurement prices paid to state and collective farms.

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Table 4  
Additions to Stocks of Selected Commodities in State Food and Material Reserves

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	1959	1960	1961	1962	1963	1964	1965	1966	1967
Grain									
Thousand metric tons	-3,200	-7,311	-6,179	1,907	-5,465	17,745	-13,764	12,248	-7,436
Million new rubles	- 182.4	- 424.8	- 376.3	124.0	- 356.9	1,226.2	- 1,138.3	1,145.7	- 706.4
Butter									
Thousand metric tons <u>a/</u>	136	123	167	216	154	174	370	346	460
Million new rubles	385	348	484	716	560	632	1,345	1,257	1,672
Sugar									
Thousand metric tons <u>b/</u>	796	1,122	4,095	1,732	-1,433	1,390	3,150	1,526	327
Million new rubles <u>c/</u>	201.9	229.7	621.5	284.8	- 315.6	246.0	760.0	328.8	187.6
Gold									
Million new rubles	- 180	- 22	- 184	- 113	- 360	- 349	- 313	96	126

- a. Data on output and retail sales of butter are in the Soviet handbooks.  
b. Combined stocks of raw, granulated, and refined sugar.  
c. Stocks of raw sugar are valued at the 1961 foreign trade price.

### Sugar

Soviet sugar stocks exist in three forms: (a) raw sugar in the form of domestic sugar beets and cane sugar imported from Cuba; (b) granulated sugar, which is produced from both forms of raw sugar; and (c) refined sugar, which is the result of processing granulated sugar. Two separate estimates of stocks were made -- one for raw sugar and one for combined stocks of granulated and refined sugar.

Stocks of raw sugar are calculated by subtracting the quantity of raw sugar used in the production of granulated sugar from the total supply of raw sugar -- imports plus domestic sugar beets. Estimates of these stocks are relatively reliable because Soviet handbooks report the output of granulated sugar that comes from sugar beets. Moreover, figures on the yield of granulated sugar from sugar beets and from sugar cane are available. Stocks of granulated and refined sugar are considered together. They are estimated as the difference between total supply (from production and imports of granulated and refined sugar) and total uses. Uses include granulated sugar used in the production of refined sugar, exports, retail sales, and sugar used in confectionary products. Stocks of raw sugar are valued at the foreign trade price of 81 rubles per ton. Refined and granulated sugar are valued at 240 rubles per ton, which has been given as the state reserves transfer price.

### Butter

The estimate is a rough indicator of the quantities of butter available for stockpiling in each year. Quantities are derived by subtracting retail sales from total output. Although butter is used in intermediate products, the estimates do not allow for this.

Butter stocks are valued at estimated retail prices which were obtained by moving the 1955 Moscow retail price forward by the official retail price index for butter.

Gold

Gold stocks are valued at 1 ruble per gram.

Content of Soviet State Reserves -- General Soviet Discussions

Definitions of state reserves found in Soviet general reference works make the same three points repeatedly. First, state reserves constitute a buffer against economic difficulties and "guarantee uninterrupted development of the national economy in the event of the emergence of unforeseen difficulty." Second, general sources agree that reserves are necessary for "strengthening the defense capability of the country." Finally, state reserves are maintained by the government and disbursed "only by special decree of the Council of Ministers."

The *Bol'shaya Sovetskaya entsiklopediya* provides an example of the usual treatment of state reserves:

State reserves are reserves, formed by the state, of the most important types of raw materials, materials, fuels, food-stuffs and also products intended for defense needs. In the USSR, state reserves are created for insuring uninterrupted development of the national economy and for overcoming partial disproportions which may arise in the course of the development of the national economy and also for strengthening the defensive capability of the country. Expenditure of state reserves is carried out in exceptional cases and is permitted only by special decree and order of the Council of Ministers. State reserves constitute a special fund of the state and are kept in a centralized system. The increase of state material and food reserves necessary for the protection of the country from all kinds of emergencies is provided for in the plans of the development of the national economy as one of the most important problems. High rates of development of all branches of the national economy on the basis of the primary growth of heavy industry allow the uniting of the tasks of the furthest growth of national consumption with the growth of socialist accumulation and the increase of state reserves.

[REDACTED]

The secrecy attached to state reserves is strikingly illustrated in the treatment of the subject in M. R. Eidel'man's book on the 1959 input-output table.\* Eidel'man reveals a wealth of new statistical material. When he comes to the explanation of how the investment section of the input-output table was compiled, every component except state reserves receives full attention. State reserves, however, are dismissed in less than a paragraph with a description that is a direct copy of the language used in the *Bol'shaya Sovetskaya entsiklopediya*.

According to standard financial texts, additions to state reserves are paid for out of the state budget allocation to "Financing the National Economy" (FNE). K. N. Plotnikov, for example, says that in addition to the more important expenditures on fixed investment and working capital, outlays on the FNE portion of the budget also finance "expenditures for the formation of state material reserves for industrial, agricultural, transport, food, defense, and other purposes."

Specific References to Military Equipment  
as a Component of State Reserves

The general definitions of state reserves cited above do not spell out what kinds of defense reserves are included. As given, the definitions could be interpreted as including no more than mobilization reserves of raw materials, machine tools, and foodstuffs.

Some Soviet writers, however, have been more explicit. M.Z. Bor declares that the "reserve fund" in national income encompasses only state reserves. These reserves, in turn, combine "first, state material reserves of a long-term character, second, reserves of means of defense of a special character, and third, current operating reserves of the Council of Ministers used for satisfying

\* M. R. Eidel'man, *Mezhotraslevoy balans obshchestvennogo produkta (The Interbranch Balance of Social Product)*, Moscow, 1966, p. 180, [REDACTED]

current requirements which arise in the course of fulfilling the annual plan."\*

In referring to "means of defense of a special character," Bor implies that some portion of the annual production of military hardware is excluded from additions to state reserves in the narrow sense. Presumably, the remaining part of the output of military hardware enters the stocks of some reserve directly subordinate to the military establishment.

V. D. Sokolovskiy, in his book, *Military Strategy*, outlines the procedure as follows:

Material reserves of the Armed Forces are divided into categories according to their intended use. These are emergency and mobilization stocks, strategic and state reserves.

Emergency stocks are stored directly by small and large peacetime units, in quantities that insure the units of meeting their mobilization deployment schedule (if provided for) and, most important, of conducting military operations for a specified period of time.

Mobilization stocks are intended for replacement of material expenditures and losses during operations in the initial period of the war. The quality and distribution of mobilization stocks depend on the probable requirements of the Armed Forces for fighting this phase of the war.

By strategic materiel reserves, one means that part of the state reserves which is put at the disposal of the high command. All remaining stocks constitute state reserves.\*\*

\* M.Z. Bor, *Voprosy metodologii planovogo balansa narodnogo khozyaystva SSSR (Questions of the Methodology of Planning the National Economic Balance of the USSR)*, Moscow, 1960, [redacted]

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\*\* V.D. Sokolovskiy, *Voyennaya strategiya (Military Strategy)*, Moscow, 1963, p. 418-419, [redacted]

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[REDACTED]

A two-fold division of material reserves is also described by Kh. M. Dzhelaukhov, in *Economic Potential in Modern War*:

A special place in the preparation of any economy for war is thus assumed by the creation of material reserves. This especially applies to reserves of various types of raw material (especially strategic), fuel, equipment, different machines, machine tools, fabricated construction shapes, semifabricants, food products, and the like in quantities sufficient to assure the supply of production activities, of the populace, and of the armed forces in the period of reconstruction and rebuilding of the economy.

Part of these reserves are found with the forces, on the ships and in their rear services -- being designated to assure the livelihood and the military activities of the armed forces at the outset of war.

Basically the material reserves are created on a national scale. They usually are classified in two types: *state and strategic reserves*.

State material reserves serve to strengthen the economic and military strength of the country. In peacetime they may be utilized to assure the populace and the work of industry in the occasion of seasonal interruptions in the flow of materials, natural catastrophes, to give prompt assistance to friendly countries, and to satisfy other unexpected demands. Upon the threat of war and with the development of military operations they are utilized for additional equipping and supplying of the armed forces, the populace, and the work of industry and for the reconstruction of important industrial objects.

The level of accumulation of the nomenclature [structure] of state reserves is established by the government; the expenditure of the funds [stocks] of such reserves is conducted also according to the decision of the government.

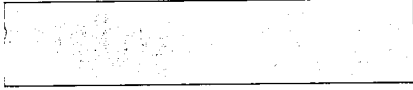
Strategic material reserves -- these are stocks in the possession of the military high command but not yet transferred to the forces for consumption. Their size is determined with the considerations of supplying the armed forces with all that is necessary for the conduct of war during the period when industry has not yet developed production according to the program of wartime. In a rapid-flowing war, the strategic material reserves, obviously, may be designated to assure the conduct of the military struggle until its conclusion.\*

\* *Kh. M. Dzheleukhov, "Economic Potential in Modern War." Morskoy sbornik, no. 3, 1966, p. 14-22,*

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**Top Secret**



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